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should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.

Since the purpose of the brief summary of invention is to apprise the public, and more especially those interested in the particular art to which the invention relates, of the nature of the invention, the summary should be directed to the specific invention being claimed, in contradistinction to mere generalities which would be equally applicable to numerous preceding patents. That is, the subject matter of the invention should be described in one or more clear, concise sentences or paragraphs. Stereotyped general statements that would fit one application as well as another serve no useful purpose and may well be required to be canceled as surplusage, and, in the absence of any illuminating statement, replaced by statements that are directly on point as applicable exclusively to the case at hand.

The brief summary, if properly written to set out the exact nature, operation, and purpose of the invention, will be of material assistance in aiding ready understanding of the patent in future searches. The brief summary should be more than a mere statement of the objects of the invention, which statement is also permissible under 37 CFR 1.73.

The brief summary of invention should be consistent with the subject matter of the claims. Note final review of application and preparation for issue, MPEP § 1302.

608.01(e) Reservation Clauses Not Permitted

37 CFR 1.79. Reservation clauses not permitted.

A reservation for a future application of subject matter disclosed but not claimed in a pending application will not be permitted in the pending application, but an application disclosing unclaimed subject matter may contain a reference to a later filed application of the same applicant or owned by a common assignee disclosing and claiming that subject matter.

608.01(f) Brief Description of Drawings

37 CFR 1.74. Reference to drawings.

When there are drawings, there shall be a brief description of the several views of the drawings and the detailed description of the invention shall refer to the different views by specifying the numbers of the figures, and to the different parts by use of reference letters or numerals (preferably the latter).

The Office of Initial Patent Examination (OIPE) will review the specification, including the brief description, to determine whether all of the figures of drawings described in the specification are present. If the specification describes a figure which is not present in the drawings, the application will be treated as an application filed without all figures of drawings in accordance with MPEP § 601.01(g), unless the application lacks any drawings, in which case the application will be treated as an application filed without drawings in accordance with MPEP § 601.01(f).

The examiner should see to it that the figures are correctly described in the brief description of the drawing, that all section lines used are referred to, and that all needed section lines are used. If a figure contains several parts, for example, figure 1A, 1B, and 1C, the figure may be described as figure 1. If only figure 1A is described in the brief description, the examiner should object to the brief description, and require applicant to either add a brief description of figure 1B and 1C or describe the figure as "figure 1."

The specification must contain or be amended to contain proper reference to the existence of drawings executed in color as required by 37 CFR 1.84.

37 CFR 1.84. Standards for drawings.

(a) *Drawings.* There are two acceptable categories for presenting drawings in utility and design patent applications.

(1) Black ink. Black and white drawings are normally required. India ink, or its equivalent that secures solid black lines, must be used for drawings; or

(2) Color. On rare occasions, color drawings may be necessary as the only practical medium by which to disclose the subject matter sought to be patented in a utility or design patent application or the subject matter of a statutory invention registration. The color drawings must be of sufficient quality such that all details in the drawings are reproducible in black and white in the printed patent. Color drawings are not permitted in international applications (see PCT Rule 11.13), or in an application, or copy thereof, submitted under the Office electronic filing system. The Office will accept color drawings in utility or design patent applications and statutory invention registrations only after granting a petition filed under this paragraph explaining why the color drawings are necessary. Any such petition must include the following:

(i) The fee set forth in § 1.17(h); $130

(ii) Three (3) sets of color drawings;

(iii) A black and white photocopy that accurately depicts, to the extent possible, the subject matter shown in the color drawing; and →this requirement has been waived

(iv) An amendment to the specification to insert (unless the specification contains or has been previously amended

Petition to the Commissioner

FP 6-24-01

to contain) the following language as the first paragraph of the brief description of the drawings:

> The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

(b) Photographs.—

(1) Black and white. Photographs, including photocopies of photographs, are not ordinarily permitted in utility and design patent applications. The Office will accept photographs in utility and design patent applications, however, if photographs are the only practicable medium for illustrating the claimed invention. For example, photographs or photomicrographs of: electrophoresis gels, blots (e.g., immunological, western, Southern, and northern), auto- radiographs, cell cultures (stained and unstained), histological tissue cross sections (stained and unstained), animals, plants, in vivo imaging, thin layer chromatography plates, crystalline structures, and, in a design patent application, ornamental effects, are acceptable. If the subject matter of the application admits of illustration by a drawing, the examiner may require a drawing in place of the photograph. The photographs must be of sufficient quality so that all details in the photographs are reproducible in the printed patent.

(2) Color photographs. Color photographs will be accepted in utility and design patent applications if the conditions for accepting color drawings and black and white photographs have been satisfied. See paragraphs (a)(2) and (b)(1) of this section.

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608.01(g) Detailed Description of Invention

A detailed description of the invention and drawings follows the general statement of invention and brief description of the drawings. This detailed description, required by 37 CFR 1.71, MPEP § 608.01, must be in such particularity as to enable any person skilled in the pertinent art or science to make and use the invention without involving extensive experimentation. An applicant is ordinarily permitted to use his or her own terminology, as long as it can be understood. Necessary grammatical corrections, however, should be required by the examiner, but it must be remembered that an examination is not made for the purpose of securing grammatical perfection.

The reference characters must be properly applied, no single reference character being used for two different parts or for a given part and a modification of such part. In the latter case, the reference character, applied to the given part, with a prime affixed may advantageously be applied to the modification. Every feature specified in the claims must be illustrated, but there should be no superfluous illustrations.

The description is a dictionary for the claims and should provide clear support or antecedent basis for all terms used in the claims. See 37 CFR 1.75, MPEP § 608.01(i), § 608.01(o), and § 1302.01.

For completeness, see MPEP § 608.01(p).

USE OF SYMBOL "Phi" IN PATENT APPLICATION

The Greek letter "Phi" has long been used as a symbol in equations in all technical disciplines. It further has special uses which include the indication of an electrical phase or clocking signal as well as an angular measurement. The recognized symbols for the upper and lower case Greek Phi characters, however, do not appear on most typewriters. This apparently has led to the use of a symbol composed by first striking a zero key and then backspacing and striking the "cancel" or "slash" key to result in an approximation of accepted symbols for the Greek character Phi. In other instances, the symbol is composed using the upper or lower case letter "O" with the "cancel" or "slash" superimposed thereon by backspacing, or it is simply handwritten in a variety of styles. These expedients result in confusion because of the variety of type sizes and styles available on modern typewriters.

In recent years, the growth of data processing has seen the increasing use of this symbol ("O") as the standard representation of zero. The "slashed" or "canceled" zero is used to indicate zero and avoid confusion with the upper case letter "O" in both text and drawings.

Thus, when the symbol "Ø" in one of its many variations, as discussed above, appears in patent applications being prepared for printing, confusion as to the intended meaning of the symbol arises. Those (such as examiners, attorneys, and applicants) working in the art can usually determine the intended meaning of this symbol because of their knowledge of the subject matter involved, but editors preparing these applications for printing have no such specialized knowledge and confusion arises as to which symbol to print. The result, at the very least, is delay until the intended meaning of the symbol can be ascertained.

Since the Office does not have the resources to conduct a technical editorial review of each application before printing, and in order to eliminate the problem

1002.02(c)(1) Petitions Decided by the Director of Technology Center 3640

In addition to the items delegated to all Directors under MPEP § 1002.02(c), authority to decide the following is delegated to the Director of Technology Center 3640:

1. All petitions filed under 35 U.S.C. 267 to extend the time for taking action in United States-owned applications wherein the invention is important to the armament or defense of the United States.

2. All petitions under 37 CFR 1.103(f) to suspend action in United States-owned applications wherein the publication of the invention might be detrimental to the public safety or defense.

Any petitions filed under 35 U.S.C. 267 and/or 37 CFR 1.103(f) in any area of the Office must be forwarded to the Director of Technology Center 3640 for decision thereon.

3. Petitions under 37 CFR 5.12(a) for foreign license to file patent applications in foreign countries, MPEP § 140.

4. Petitions for rescission of secrecy order, 37 CFR 5.4, MPEP § 120.

5. Petitions to permit disclosure of subject matter under a secrecy order, 37 CFR 5.5(b), MPEP § 120.

6. Petitions for modification of secrecy order, 37 CFR 5.5(c), MPEP § 120.

7. Petitions for retroactive foreign filing license, 37 CFR 5.25, MPEP § 140.

8. Petitions relating to refusal of request for publication of a Statutory Invention Registration, 37 CFR 1.295, MPEP § 1105.

9. Petitions relating to request for withdrawal of request for publication of a Statutory Invention Registration, 37 CFR 1.296, MPEP § 1109.

10. Petitions relating to DOE property rights statements under 42 U.S.C. 2182.

11. Petitions relating to NASA property rights statements under 42 U.S.C. 2457.

12. Petitions relating to foreign filing licenses under 35 U.S.C. 184.

13. Petitions concerning review of security or government interest matters not otherwise provided for.

14. Petitions relating to any application under a secrecy order pursuant to 35 U.S.C. 181, including petitions to expunge subject matter from the application to overcome the secrecy order.

1002.02(c)(2) Petitions Decided by the Director of Technology Center 1600

In addition to the items delegated to all Group Directors under MPEP § 1002.02(c), authority to decide the following is delegated to the Director of Technology Center 1600:

1. Petitions regarding sequence rules, 37 CFR 1.821-1.825.

2. Petitions to make biotechnology applications special where applicant is a small entity, MPEP § 708.02, item XII.

1002.02(c)(3)Petitions Decided by the Director of Technology Center 2900

In addition to the items delegated to all Technology Center Directors under MPEP § 1002.02(c), authority to decide the following petitions and requests filed in design applications is delegated to the Director of Technology Center 2900:

1. Petitions to revive an abandoned national application, 37 CFR 1.137 (both unavoidable delay and unintentional delay), MPEP § 711.03(c).

2. Petitions relating to the filing date of patent applications under 37 CFR 1.53 and former 37 CFR 1.60 and 1.62, MPEP § 506.02.

3. Requests for expedited examination of design applications under 37 CFR 1.155, MPEP § 1504.30.

1002.02(d) Petitions and Matters Decided by Supervisory Patent Examiners

1. Entry of amendments under 37 CFR 1.312 which embody more than merely the correction of formal matters without changing the scope of any claim, MPEP § 714.16, § 714.16(d).

2. Approval of reopening prosecution after the filing of an appeal brief in order to incorporate any new ground of rejection, MPEP § 1208.01.

3. Requests for a Certificate of Correction submitted under 37 CFR 1.322 or 1.323 unless the error is

clearly minor, clerical or typographical, in which case it is handled by the Certificate of Correction Branch.

4. Requests for a Certificate of Correction to correct a claim even if the request is submitted under 37 CFR 1.322.

5. Petitions under 37 CFR 1.324 to correct errors in joining inventors in a patent that is not involved in an interference, MPEP § 1481.

6. Disapproval of preliminary amendments under 37 CFR 1.115 or second (or subsequent) supplemental amendments (3rd reply) under 37 CFR 1.111, MPEP § 714.03(a).

7. Letters to an applicant suggesting claims for purposes of interference, or the submission of Form PTO-850, where one or more claims of one application would differ from corresponding claims of another application. See 37 CFR 1.603 and MPEP § 2303.

8. Amendments presented after decision in an appeal by the Board of Patent Appeals and Interferences as to which the primary examiner recommends entry as placing the application in condition for allowance. See MPEP § 1214.07.

9. Requests for second or subsequent change of inventorship in application under 37 CFR 1.48. See MPEP § 201.03.

10. Petitions under 37 CFR 1.84 to accept photographs or color drawings in patent applications.

11. Withdrawal from appeal of an application remanded by the Board of Patent Appeals and Interferences. See MPEP § 1211.

12. Requests for deferral of examination under 37 CFR 1.103(d), MPEP § 709.

1002.02(e) Requests Decided by Primary Examiners

Requests under 37 CFR 1.48 for correction of inventorship in applications.

1002.02(f) Petitions and Matters Decided by the Chief Administrative Patent Judge of the Board of Patent Appeals and Interferences

The Chief Administrative Patent Judge is authorized to redelegate authority to decide any of these petitions or matters to the Vice Chief Administrative Patent Judge of the Board of Patent Appeals and Interferences.

1. Designation of members of the Board of Patent Appeals and Interferences to hear appeals and decide interferences, both initially and on request for reconsideration. 35 U.S.C. 6.

2. Designation of members of the Board of Patent Appeals and Interferences to conduct proceedings in an interference. 37 CFR 1.610(a).

3. Designation of members of the Board of Patent Appeals and Interferences to decide requests for reconsideration. 37 CFR 1.640(c).

4. Requests related to superintending the functions of the Board of Patent Appeals and Interferences, including:

a. Petitions under 37 CFR 1.644 in interferences.

b. Petitions under 37 CFR 1.181, 1.182, and 1.183 from actions of the Board of Patent Appeals and Interferences or of personnel at the Board of Patent Appeals and Interferences.

c. Petitions from a decision under 37 CFR 1.612(a) granting or denying access by a party to an interference to pending and abandoned patent applications. MPEP § 103.

d. Petitions for an extension of time for seeking rehearing in an *ex parte* case before the Board of Patent Appeals and Interferences.

e. Petitions from a decision under 37 CFR 1.615(b) authorizing or declining to authorize continued concurrent prosecution of an application involved in an interference proceeding.

f. Petitions from a decision under 37 CFR 1.613(d) declining to authorize a withdrawal of an attorney or agent from representing a party involved in an interference.

g. Petitions from a decision granting or denying a request for a certificate of correction under 37 CFR 1.322 and 1.323 for a patent involved in an interference.

h. Petitions seeking disqualification of an attorney or agent under 37 CFR 10.130(b) in an *inter partes* case pending before the Board of Patent Appeals and Interferences.

5. Petitions under 35 U.S.C. 135(c):

a. Petitions under 35 U.S.C. 135(c) and 37 CFR 1.666(c) to permit the filing of an agreement or understanding during the 6-month period subsequent to termination of an interference.

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3/3,AB/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13301890 BIOSIS NO.: 200100509039

Role of KCa and KATP channels in blood-brain tumor barrier permeability in rats.

AUTHOR: Ningaraj N S(a); Rao M K; Yamamoto V; Tsimerinov E; Asotra K; Black K L(a)
AUTHOR ADDRESS: (a)Maxine Dunitz Neurosurgical Institute, Cedars Sinai Med Center, Los Angeles, CA**USA

JOURNAL: Society for Neuroscience Abstracts 27 (1):p578 2001
MEDIUM: print
CONFERENCE/MEETING: 31st Annual Meeting of the Society for Neuroscience San Diego, California, USA November 10-15, 2001
ISSN: 0190-5295
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: Cerebral microvessels, which form blood-brain tumor barrier (BTB) are highly responsive to vasomodulators compared to that of BBB. We exploited this difference to selectively increase BTB permeability without affecting normal brain. Our studies demonstrated functional expression of calcium-dependent (KCa) and ATP-sensitive potassium (KATP) channels in rat brain tumor cells (RG2), and capillaries using immunohistochemical and pharmacological studies. Permeability constant, Ki, was determined in Wistar rats harboring intracranial RG2 tumors by QAR technique using (14C)-AIB. To investigate the functional roles of KCa and KATP channels in vivo, rats received intracarotidly, saline or respective agonists (NS-1619 for KCa and minoxidil sulfate for KATP channels) with or without antagonists (Iberiotoxin for KCa and glibenclamide for KATP channels) for 15 min. Respective antagonists then attenuated the BTB permeability increase induced by agonists, which suggests roles for KCa and KATP channels in BTB permeability regulation. Moreover, potentiometric analyses using fluorescent dye (DiBAC4(3)) demonstrate presence of KCa and KATP channels in RG2 cells. This study suggest that KCa and KATP channels are potential and effective targets to modulate BTB permeability, which then can enhance selective drug delivery to brain tumors while leaving normal brain intact.

2001

7/3,AB/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06725599 BIOSIS NO.: 000088035025

AN ELECTROPHYSIOLOGICAL STUDY OF MICROVASCULAR PERMEABILITY AND ITS MODULATION BY CHEMICAL MEDIATORS

AUTHOR: OLESEN S-P
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JOURNAL: ACTA PHYSIOL SCAND SUPPL 0 (579). 1989. 1-28. 1989
FULL JOURNAL NAME: Acta Physiologica Scandinavica Supplementum
CODEN: APSSA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: In continuous microvessels the permeability barrier is constituted by the endothelium, consisting of a single layer of endothelial cells separated by hydrophilic clefts. Ions and small hydrophilic solutes permeate the endothelium via the intercellular spaces, and the dimensions of this pathway determine the permeability. Endothelial permeability characteristics have been extensively studied by physiological techniques used on whole organs. It is known that permeability of venules increases after stimulation with inflammatory mediators, probably by a mechanism involving formation of widenings of the interendothelial cleft, termed leaks. To the present knowledge about the function of the microvascular endothelium my studies have added the following information: 1. The electrical resistance or conductance of endothelium recorded on single frog microvessels in vivo vary by at least three orders of magnitude from the tight brain endothelium (Rm =1870 .OMEGA.cm2, Gm =0.53 mScm-2) to the microvascular endothelia of skin (Rm =24-70 .OMEGA.cm2, Gm=14-42 mSCM-2), muscle (Rm=23-36 .OMEGA.cm2, Gm=28-43 mscm-2) and mesentery (Rm=1-3 .OMEGA.cm2, Gm=0.33-1.0 Scm-2). 2. Potassium ion permeabilities calculated from the electrical conductances average 8.5 .times. 10-7, 3.4 .times. 10-5, 5.7 .times. 10-5, and 80 .times. 10-5 cm sec-7 for brain, skin, muscle and mesenteric microvessels, respectively. These values comply with what has been predicted from whole-organ experiments. 3. Venules are 1.5-3.times. more permeable to ions than arterioles. 4. Ion permeabilities of capillaries are not much different from those of venules, and since the surface area of venules is comparable to that of capillaries, venules may be important exchange vessels for small solutes. 5. The specific electrical resistance of frog **blood - brain barrier** is similar to that of a tight epithelium, resembling brain endothelium by several criteria. 6. The electrical resistance of brain endothelium is at least one order of magnitude smaller than that of the endothelial cell membrane, strongly indicating that microvascular permeability to small solutes is mainly paracellular in brain, as it is in other organs. 7. Ion permeability of frog **blood - brain barrier** is reversibly increased by various autacoids: serotonin, bradykinin, ATP, ADP, AMP, og **LTC4** . These receptor-agonists all induce similar changes: permeability increases with 1-2 sec after administration, rapidly peaks with values less than two-fold the control value and reverses at a much slower rate (5-15 min). This time course is similar to that of the increase in free intraendothelial [Ca++] known to be induced by agonists. Inhibition of the Ca++ transient by the use of a Ca++ blocker also inhibits the permeability increase induced by serotonin. 8. A selecitve increase in the cytosolic Ca++ concentration in endothelial cells mediated by ionophores A23187 and ETH1001 mimics the receptor agonist-induced permeability increase, further indicating that Ca++ probably serves as a second messenger in the endothelial permeability response. 9. A selective increase in the cytosolic concentration of Mg++, cAMP, cGMP or protein kinase C in endothelial cells does not per se change venular permeability. 10. Permeability of frog brain vessels is increased by unknown mechanisms by free oxygen radicals as well as by hypoxia, cyanide, iodoacetate, phospholipase A2, arachidonic acid, protamine sulphate, unbound Evans blue dye, trypsin, neuraminidase, melittin,

streptolysin O, and snake venoms. 11. Frog brain venules respond to the same chemical stimuli as peripheral venules in mammals are known to do. 12. Ion channels are sparse in endothelial cell membranes and contribute very little to transendothelial ion fluxes. The electrical resistance of the bovine aortic endothelial cell membrane averages 25,000 .OMEGA.cm2 at resting membrane potential, which is determined to be about -80 mV. 13. The most common ion **channel** in cultured bovine aortic endothelial cell membranes is a 30 pS, K+-selective, inward rectifier **channel** , activated by hyperpolarization. Depolarization induces very little membrane **channel** activity. 14. The cells also express a muscarinic gated K+ current, which is independent of GTP-binding proteins. Finally, shear stress applied to endothelial cells grown in a laminar flow tube activates a different K+ current at shear stress levels similar to those found in arterioles in vivo. It is possible that this mechanism is involved in endothelial-dependent arteriolar relaxation.

1989

9/3,AB/5 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08184770 BIOSIS NO.: 000094008543

EFFECT OF POTASSIUM CHANNEL **-MODULATING DRUGS ON THE VASOCONSTRICTOR RESPONSES OF LEUKOTRIENES C-4 D-4 AND ANGIOTENSIN II IN THE GUINEA-PIG ISOLATED PERFUSED HEART**

AUTHOR: MCLEOD J D; PIPER P J
AUTHOR ADDRESS: PHARMACOL. DEP., HUNTERIAN INST., ROYAL COLL. SURGEONS, LINCOLN'S INN FIELDS, LONDON WC2A 3PN.

JOURNAL: BR J PHARMACOL 105 (3). 1992. 739-743. 1992
FULL JOURNAL NAME: British Journal of Pharmacology
CODEN: BJPCB
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The vascular actions of leukotrienes C4 (**LTC4**) and LTD4 in the guinea-pig isolated perfused heart were studied in the presence of potassium (K+) **channel** modulatory compounds. Cromakalim (0.35-10.mu.M), a K+ **channel** activator, inhibited the vasoconstrictor responses of **LTC4** (30 pmol), LTD4 (30 pmol) and angiotensin II (AII) (100 pmol) in a concentration-dependent manner. Glyceryl trinitrate (10 mg 1-1) and vasoactive intestinal peptide (10nM) induced a similar vasodilator action to cromakalim in the isolated heart but had no effect on responses to **LTC4** and LTD4. The inhibitory action by cromakalim (10 .mu.M) on the **LTC4** (30 pmol) response could be reversed in the presence of an equimolar concentration of glibenclamide. However, glibenclamide (10 .mu.M) only partially restored the LTD4 (30 pmol) action. Galanin (10 nM) and charybdotoxin (60 nM) had no effect on the vascular responses to **LTC4** and LTD4 (30 pmol). Inhibition by cromakalim of coronary vasospasm induced by vascular **LTC4** , LTD4 and AII appears to be separate from its vasodilator action and it is postulated that a cromakalim-sensitive mechanism in the coronary vasculature is important in the vasoconstrictor responses to **LTC4** , LTD4 and AII.

1992

AMB

15/3,AB/3 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

03343803 Genuine Article#: NY407 Number of References: 26
Title: TRANSENDOTHELIAL ELECTRICAL POTENTIAL ACROSS PIAL VESSELS IN ANESTHETIZED RATS - A STUDY OF ION PERMEABILITY AND TRANSPORT AT THE BLOOD - BRAIN **-BARRIER** (Abstract Available)
Author(s): REVEST PA; JONES HC; ABBOTT NJ
Corporate Source: UNIV LONDON QUEEN MARY & WESTFIELD COLL,DEPT PHYSIOL,MILE END RD/LONDON E1 4NS//ENGLAND/; UNIV FLORIDA,HLTH SCI CTR,DEPT PHARMACOL & THERAPEUT/GAINESVILLE//FL/32610; UNIV LONDON KINGS COLL,DIV BIOMED SCI,PHYSIOL GRP/LONDON WC2R 2LS//ENGLAND/
Journal: BRAIN RESEARCH, 1994, V652, N1 (JUL 25), P76-82
ISSN: 0006-8993
Language: ENGLISH Document Type: ARTICLE
Abstract: Brain pial microvessels have previously been demonstrated to have **blood - brain** barrier properties. The potential difference (PD) across exposed brain pial microvessels, 20-60 mu m in diameter and superfused with artificial CSF, has been measured in anaesthetised rats using glass microelectrodes. The PD on insertion into venous vessels, V-in, was 3.2 mV lumen negative, and in arterial vessels it was higher at 4.5 mV. Superfusion with high K+-CSF, made by replacing Na+ with K+, caused a positive deflection in PD, V-K+, whereas reducing the Na+ alone, by replacing Na+ by Tris-HCl, made the lumen more negative. These two effects were additive. Studies on venous vessels showed that ouabain had no effect on V-in and only affected V-K+ under conditions of low Na pre-exposure. Neither histamine nor cimetidine had any effect on V-in, or V-K+ whereas tetraethylammonium, a K+-channel blocker, reduced V-K+ by 20%. These experiments demonstrate that changes in PD caused by changing abluminal Na+ or K+ are due predominantly to movement of ions through channels in the endothelial cell membranes, and that actions that alter the activity of the Na+,K+-ATPase or reduce the resistance of the paracellular pathway in parallel with increased membrane permeability have less effect on the PD.

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?ds

Set     Items   Description
S1         40   NS-1619
S2          0   S1 AND (LEUKOTRIENE OR LTC4)
S3         34   RD S1 (unique items)
S4       6691   LTC4
S5         60   S4 AND BLOOD(W)BRAIN(W)BARRIER
S6         38   RD (unique items)
S7          2   S6 AND CHANNEL
S8        114   LTC4 AND CHANNEL
S9         78   RD (unique items)
S10      9990   MINOXIDIL
S11        26   S10 AND BLOOD(W)BRAIN
S12        18   RD (unique items)
S13      8393   CROMAKALIM
S14        12   S13 AND BLOOD(W)BRAIN
S15         6   RD (unique items)
?
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Dialog
file: medicine

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7/19/02